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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,343	12/03/2003	Christophe Maleville	4717-5300	8607
28765	7590	10/20/2005	EXAMINER PERT, EVAN T	
WINSTON & STRAWN LLP 1700 K STREET, N.W. WASHINGTON, DC 20006			ART UNIT 2826	PAPER NUMBER

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/728,343

Applicant(s)

MALEVILLE ET AL.

Examiner

Evan Pert

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,9-11 and 13-37 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1,3,9-11 and 13-30 is/are allowed.  
6) ☒ Claim(s) 31,32,36 and 37 is/are rejected.  
7) ☒ Claim(s) 33-35 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31, 36 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-297583 (See machine translation of JP 11-297,583 provided with this communication, originally cited without translation in the IDS entered April 16, 2004).

Regarding claim 31, the '583 reference discloses a method for recycling (i.e. "reusing") a substrate (i.e. an "exfoliation wafer") that has a detachment profile that includes a residual topography (e.g. see detachment profile in Fig. 2A and in Fig. 2B) resulting from an ion implantation process (e.g. hydrogen ion implantation as in Fig. 1C), which method comprises: removing the residual topography of the detachment profile by rotating the substrate while exposing at least the residual topography to a chemical substance that reacts with the residue (see [0047] with "rotation" and "slurry"); and polishing (i.e. Fig. 2F) the entire surface of the substrate (see [0050]) to eliminate defects and to prepare the surface in condition for molecular bonding to another substrate (i.e. "reusing silicon wafer as peeled wafer" to "improve the productivity of SOI wafer").

Regarding claim 36, the residual topography is removed "in a piecewise manner" according to the '583 reference because the oxide part of the residual topography seen in Fig. 1A is removed "piecewise" in a separate step per [0044] as that of removing the silicon part of the topography seen in Fig. 1B per [0047].

Regarding claim 37, the '583 reference discloses, for example, SiC (see [0005]).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-297583, as applied to claim 31 above, and further in view of Official Notice.

The examiner takes Official Notice that mechanical profilometers were known at the time of applicant's invention, wherein the purpose of the instrument called a mechanical profilometer is for measuring the surface profile of an object such as [0048] of the '583 reference.

The '583 reference is silent about *how to measure* the removal level when polishing the periphery, and does not mention a well known "mechanical profilometer."

Yet, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to adopt a well-known mechanical profilometer for measuring the removal of the profile at the periphery of a handle wafer to be reused.

One of ordinary skill in the art would be motivated to use a relatively simple measurement tool (i.e. mechanical versus electronic), for reliability and accuracy. There is nothing unexpected about measuring protrusions at the periphery in the '583 reference with a "mechanical profilometer," which is just a choice of well-known measurement tools for determining the removing of protrusions during a machining type of process. See MPEP 2144.

***Allowable Subject Matter***

3. Claims 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 1, 3, 9-11 and 13-30 are allowed.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action.

In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed.

Any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evan Pert whose telephone number is 571-272-1969. The examiner can normally be reached on M-F (7:30AM-3:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ETP  
October 15, 2005

  
**EVAN PERT**  
**PRIMARY EXAMINER**